Programme,

Abstracts

and

Curriculum Vitae

Programme

Friday, September 4, 2009

When	What	Who
08:30	Welcome	Denis Monard, President SCNAT Anne-Claude Berthoud, President SAGW
Session 1	**Approaching Darwin**	Hans-Konrad Schmutz
08:45	Celebrating Darwin: The Darwin Centennial, the Evolutionary Synthesis and the Unity of Knowledge	Vassiliki Betty Smocovitis
09:30	Darwinism and Anti-Darwinism in the Evolution of Biology	Peter J. Bowler
10:15	Evolving the City	David Sloan Wilson
11:00	Discussion	Hans-Konrad Schmutz
11:30	Lunch	
Session 2	**Tracing Darwin: History and Prospects of the Exchange of Darwin's Concepts Between Science and Social Sciences**	Gianni D'Amato
12:45	Why Art? The Darwinian Explanation	Thomas Junker
13:30	Darwin als Theoretiker des Kulturellen	Philipp Sarasin
14:15	Biological and Sociocultural Evolution: Separation, Parallels, Interdependencies	Rudolf Stichweh
15:00	Discussion	Gianni D'Amato
15:30	Break	
16:00	**Round Table I** With speakers of session 1 & 2	Helmut Weissert
17:00	Break	
17:30	**Public Presentation** Animal Evolution: Myth or Reality?	Denis Duboule introduced by Jean-David Rochaix
18:30	End of public presentation	
19:30	Conference Dinner	

Saturday, September 5, 2009

When	What	Who
Session 3	**Leading edge Presentation Palaeontology**	Jean-Pierre Berger
08:30	The Problem of Missing Links and the Origin of Turtles	Olivier C. Rieppel
09:15	Beyond Darwin's «Incompleteness of the Geological Record»: Who survived in the Open Oceans and why?	Hans R. Thierstein
10:00	Discussion	Jean-Pierre Berger
10:30	Break	
Session 4	**Leading edge Presentation Biology**	Jean-David Rochaix
10:45	Evolution of Morphological Novelties and Plant Biodiversity	Heinz Saedler
11:30	Darwinian Genomics	Andrew G. Clark
12:15	Discussion	Jean-David Rochaix
12:45	Lunch	
Session 5	**Epistemology I**	Gerd Folkers
14:00	From the Voyage on the Beagle to Sorcerer II: The ongoing Transformation of Science	Helga Nowotny
14:45	Darwin's Heredity	Hans-Jörg Rheinberger
15:30	Break	
Session 6	**Epistemology II**	Gerd Folkers
15:45	The second Darwinian Blow to Human Self-Love: Mind and Culture as Dependent Variable of Human Nature	Wolfgang van den Daele
16:30	Can modern Darwinism explain Human Nature?	Carel P. van Schaik
17:15	Discussion	Gerd Folkers
17:45	Break	
18:00	**Round Table II** With speakers of sessions 3 - 6	Peter Lippuner
18:45	Farewell	
18:55	End of Conference	

Session 1

Approaching Darwin

Friday 8:45 – 11:30

Session Chair:

Hans-Konrad Schmutz

Naturmuseum Winterthur

CV Hans-Konrad Schmutz

Education

1971: final high-school examination (Kantonsschule Winterthur)

1977: dipl. anthropol. (University of Zürich) (with distinction) «Untersuchung über die Einmündungen der Venae cerebrales superiores und die Zusatzstrukturen im Sinus sagittalis superior»

1981: Dr. phil II (University of Zurich) «Eine histologische Strukturanlyse der basalen Hirnarterien mit Berücksichtigung der Histogenese»

1996 - present: Member of advisory board of the Biohistoricum, Museum for the History of Natural History at Neuburg near Munich.

2001: PD, Venia legendi (University of Zurich) «Die Tarsiiformes - ihre Entdeckung und Entschleierung zwischen 1700 und 1850»

Distinctions and prizes

1975: Student Award of the philosophical faculty II (Prof. Kubik and Prof. Biegert)

1977: Student Award of the medical faculty (Prof. Koelbing)

Academic Positions

1982 - present: Director of the Natural History Museum of Winterthur.

1983 - 1986: Adviser of the Medical History Museum of the University of Zurich.

1990 - present: Lecturer in the History of Physical Anthropology at the University of Zürich.

2001 - present: Venia Legendi in History of Physical Anthropologie at the science faculty of zurich University

Activities & Societies

1988 - present: Swiss Society of the History of Medicine and Science: Council member.

1989 - present: Gesnerus: Member of the editorial Board

1982: Arbeitskreis für Biologiegeschichte der deutschsprachigen Länder: Founder member.

1984 - present: Robert-Sulzer-Forrer-Stiftung: Council member.

1985 - present: Society for the History of Natural History: Member.

1991: Deutsche Gesellschaft für Geschichte und Theorie der Biologie: Founder member.

Editorial experience

1985 - present: Coeditor of «Gesnerus», the Journal of the Swiss Society for the History of medecine and Natural science

2001 - present: Coeditor of The «Medizinhistorisches Journal»

Celebrating Darwin: The Darwin Centennial, the Evolutionary Synthesis and the Unity of Knowledge

Vassiliki Betty Smocovitis
Departments of Biology and History
University of Florida

This paper explores the efforts to unify the disciplines of knowledge in the wake of the evolutionary synthesis by focusing on the events at the Darwin Centennial of 1959. It explores the role played by the figure of Charles Darwin in serving as the «unifying figure» for a range of related disciplines, along with exploring the evolution of our understanding of the historical Darwin. Specific characteristics of the Darwin Centennial at the University of Chicago are explored, including its impact on catalyzing anti-evolutionary movements, but so too is the subsequent development of the relations between the varied disciplines of knowledge ranging from the physical sciences to the life sciences to the social sciences. The extent to which evolution serves as the «unifying principle» of not only the biological sciences, but also all of the disciplines of knowledge is explored at the end of the paper in the way of opening discussion into the theme of the conference.

CV Vassiliki Betty Smocovitis

(http://people.biology.ufl.edu/bsmocovi/Bettys_Website/Welcome.html)

Education

Cornell University, Ph.D. Ecology and Evolutionary Biology/Program in History and Philosophy of Science 1988

University of Western Ontario, Honours BSc. in Biology (Honours Plant Sciences) 1979

Academic Appointments

Distinguished Alumni Professor, University of Florida (UF), 2009-201

Professor, Department Biology and Dept. History, 2006; Associate Professor, Dept. Zoology, UF, 2004-2006; Associate Professor, Dept History, 1997-2006; Professor, Dept. Philosophy and History of Science, University of Athens, Greece 2003; Visiting Research Associate, National Museum and Art Gallery, Papua New Guinea, 1996; Visiting Fellow, Ecology and Systematics, Cornell University, Summer 1994; Visiting Scholar, Dept. Philosophy, Emory University, Summer 1993; Visiting Assistant Professor (Mellon Fellow in the Humanities), Stanford University, 1990-1992; Assistant Professor, Dept. History,UF 1988-1996; Instructor, John S. Knight Writing Program at Cornell University, Freshman Writing, 1987-88

Recent Awards, Fellowships and Honors

Phi Beta Kappa Visiting Scholar,2008-2009 (Inducted, 2008)

Fellow, American Association for the Advancement of Science, 2001

Major Grants from National Science Foundation, National Endowment for the Humanities, American Philosophical Society

University of Florida, College of Liberal Arts and Sciences, Teaching Award, 2000-2001, 1996-7,1992-3

University of Florida, University of Florida Teaching Award, 1996-97

John Mahon Undergraduate Teaching Award, Department of History, 1995

University of Florida, TIP Award, (Teaching Improvement Program Award), 1994

4 Publications Related to Evolution (History and Philosophy)

- Unifying Biology: The Evolutionary Synthesis and Evolutionary Biology, Princeton University Press, 1996.
- Singing His Praises: Darwin and His Theory in Song and Musical Production, Isis (in press, 2009)
- The Unifying Vision: Julian Huxley, The Evolutionary Synthesis Evolutionary Humanism. G. Somsen and H. Kamminga, eds. Pursuing the Unity of Science: Ideology and Scientific Practice Between the Great War and the Cold War, Ashgate Press, 2009.
- The Plant Drosophila: E. B. Babcock, The Genus Crepis, and the Evolution of a Research Program at Berkeley, 1914-1947). Historical Studies in the Natural Sciences (2009): 300-355.

Darwinism and Anti-Darwinism in the Evolution of Biology

Peter J. Bowler
Anthropological Studies
Queen's University Belfast

This paper will seek to identify the key points differentiating the anti-Darwinian theories of evolution that flourished around 1900 from the model outlined in Darwin's Origin of Species. In one sense, the issue of neo-Lamarckism is a 'red herring' – Darwin himself accepted a role for the inheritance of acquired characteristics and that mechanism can be invoked as an alternative to natural selection without disturbing most other aspects of Darwin's model (open-ended, divergent evolution, driven largely by the necessity for isolated populations to adapt to new environments). The only difference is that use-inheritance seems a more purposeful and humane way of achieving the same results.

I argue that the main concern of many anti-Darwinian biologists, including the so-called 'neo-Lamarckians,' was to challenge the model of open-ended, divergent evolution. They wanted to limit the role of adaptation, which is why saltationism was so popular, and why Lamarckism so often became associated with orthogenesis (predetermined nonadaptive trends), as in the work of Theodore Eimer and the American school of Neo-Lamarckism. Their preferred model of evolution was of parallel lines advancing through the same hierarchy of developmental stages, often linked to a version of the recapitulation theory which assumed that ontogeny controlled the direction of future variation in the species. Such theories challenged the Darwinian assumption that relationships between species are a consequence of descent from a common ancestor.

Given that interest in the linkage between ontogeny and evolution has now revived, a study of these early theories may throw light on the issues underlying some of the modern controversies.

CV Peter J. Bowler

Peter J. Bowler is Professor of the History of Science at Queen's University, Belfast. He is a Fellow of the British Academy, a Member of the Royal Irish Academy, and a Fellow of the American Association for the Advancement of Science. He was President of the British Society for the History of Science, 2003-2005. He has a Ph.D. from the University of Toronto and has taught at universities in Canada, Malaysia and the United Kingdom. He has published a number of books on the history of biology, including Fossils and Progress (Science History Publications, 1976), The Eclipse of Darwinism (Johns Hopkins University Press, 1983), Theories of Human Evolution (JHUP, 1986), The Non-Darwinian Revolution (JHUP, 1988), The Mendelian Revolution (Athlone/JHUP, 1990) and Life's Splendid Drama, an account of phylogenetic research in the period 1860-1940 (University of Chicago Press, 1996). He has written several general surveys, including Evolution: The History of an Idea (University of California Press, 3rd edn., 2003) and The Fontana/Norton History of the Environmental Sciences (1992). His most recent book is Monkey Trials and Gorilla Sermons: Evolution and Christianity from Darwin to Intelligent Design (Harvard University Press, 2007).

Evolving the City

David Sloan Wilson
Biological Sciences Department
Binghamton University

I will report on a unique «whole university/whole city» approach to understanding and improving the quality of life from an evolutionary perspective. EvoS (http://evolution.binghamton.edu/evos), a campus-wide evolutionary studies program, provides a network of faculty spanning all disciplines that speak the common language of evolutionary theory in addition to their disciplinary backgrounds. The Binghamton Neighbourhood Project (http://evolution.binghamton.edu/bnp) provides a comparable network of city partners and an accumulating database for empirical research on a wide range of specific topics including prosociality, health, education, and even spirituality. Because evolution is fundamentally about the relationship between organisms and their environments, the best basic science is conducted on people from all walks of life, as they go about their daily lives. This kind of research is also most relevant to increasing the quality of life, creating a positive trade-off between basic and applied science.

CV David Sloan Wilson

http://evolution.binghamton.edu/dswilson

Professional Preparation

INSTITUTIONS	FIELD OF STUDY	DEGREE	YEARS
Harvard/U.Wash	Ecology/Evolution	Post-doctoral	1975-1977
Michigan State	Zoology	PhD	1971-1975
U. Rochester	Biology	B.S.	1967-1971

Appointments

2006-present: SUNY Distinguished Professor

1989-2006 Professor, Departments of Biological Sciences and Anthropology Binghamton University (joint appointment)

1980-1989 Associate Professor, Kellogg Biological Station, Michigan State University

1977-1980 Assistant Professor, Division of Environmental Studies, University of California, Davis

Honors

2006: Promoted to SUNY distinguished professor (highest rank within SUNY system)

2005: Delivered Yale University Terry Lectures (a series of 4 lectures)

2004: Charter Lecture, University of Georgia

2003: SUNY Chancellor's Award for Excellence in Scholarship and Creative Activities

Vice President, American Society of Naturalists (1996)

J.S. Guggenheim fellow (1987)

Synergistic Acitivties

Evolutionary theory has been the conceptual foundation of the biological sciences for decades. However, it has had minimal impact on other areas of knowledge such as the human social sciences, philosophy, and even the health and environmental sciences. In addition to my mainstream biological research, I have made a major effort to extend the boundaries of evolutionary theory, lecturing widely and publishing in anthropology, economics, philosophy, and psychology and religion journals. Since publishing Darwin's Cathedral (Chicago, 2002) I have been especially active in the area of science and religion (http://evolution.binghamton.edu/religion/). In addition to these global academic activities, I decided in 2002 that it would be worthwhile to extend the boundaries of evolutionary theory at my own university. The result is EvoS, arguably the first program to make evolutionary theory part of the normal intellectual discourse at the scale of an entire university (http://evolution.binghamton.edu/evos/), which has now received NSF funding to expand into a nationwide consortium. In 2006, I extended EvoS in the direction of community-based research to understand and improve the quality of everyday life (http://evolution.binghamton.edu/bnp/). In 2008, I co-founded the Evolution Institute, a think tank for formulating public policy from an evolutionary perspective (http://evolution.binghamton.edu/evos/News_EvolutionInstitute.html). Finally, I communicate to a popular audience through my blog for the Huffington Post (http://www.huffingtonpost.com/david-sloan-wilson/#blogger_bio), my book Evolution for Everyone: How Darwin's Theory Can Change the Way We Think About Our Lives (Delacorte, 2007), and my forthcoming book Evolving the City: An Evolutionist Contemplates Changing the World—One City at a Time (Little, Brown).

Session 2

Tracing Darwin: History and Prospects of the Exchange of Darwin's Concepts between Science and Social Sciences

Friday 12:45 – 15:30

Session Chair:

Gianni D'Amato

Université de Neuchâtel

CV Gianni D'Amato

Prof. Gianni D'Amato hält seit 2007 eine Professor für Migration und Staatsbürgerschaft an der Universität Neuenburg und ist Direktor des ebenfalls in Neuenburg ansässigen Schweizerischen Forums für Migrations- und Bevölkerungsstudien.

Zuvor war er als Projektleiter und Lehrbeauftragter an verschiedenen Universitäten tätig. Zudem hat er verschiedene Forschungsarbeiten hauptsächlich zu Migration, Staatsbürgerschaft, nationale Identität, Menschenschmuggel und Populismus durchgeführt.

Prof. Gianni D'Amato studierte Soziologie, Sozial- und Wirtschaftsgeschichte sowie politische Philosophie an der Universität Zürich, wo er 1992 den Grad lic.phil.I erlangte. 1993 bis 1994 weilte er als Forschungsstipendiat an der Universität Konstanz und 1994 an der Universität Potsdam, wo er 1998 zum Thema „Vom Ausländer zum Bürger. Die Einwirkung der Immigrantenbevölkerung auf die Problematik der politischen Integration moderner Gesellschaften am Beispiel Deutschland, Frankreich und der Schweiz" zum Dr.rer.pol promoviert

Why art? The Darwinian Explanation

Thomas Junker
Lehrstuhl für Ethik in den Biowissenschaften
Universität Tübingen

In 1859, Charles Darwin ventured a bold prophesy in his landmark work On the Origin of the Species: «Psychology will be based on a new foundation, that of the necessary acquirement of each mental power and capacity by gradation». If the theory of evolution really does explain «each mental power and capacity», then this should apply not only for traits as intelligence, morality or language, but for art as well. From a biological perspective not the various languages, moral codes or artistic forms are of interest, because these are based on personal experiences and the knowledge systematically imparted by a community (its «culture»). The focus of the biological perspective is the sense for art inherent in all humans and their fundamental esthetic convictions as a genetically inherent trait. For Darwinian evolutionary biology the most important causes driving evolutionary change are natural and sexual selection, i.e. random genetic differences between individuals, the struggle for survival, sexual competition and the choice of mates. How would a Darwinian explanation of art look like? Does it help to understand the origins of art and its enormous significance for individuals, for peoples, and for all of humanity?

CV Thomas Junker

Born 1957 in Munich, Germany
1978-82 Study of pharmacy at Freiburg University
1984-85 Study of the history of science at Marburg University
1989 Ph.D. in history of science at Marburg University
1992-95 Assistant editor at The Correspondence of Charles Darwin in Cambridge (England).
1993-95 Post-doc at the Department of the History of Science (Harvard University, Cambridge, Mass.) with Ernst Mayr (Humboldt-Foundation)
1996-2002 Assistant lecturer for ethics and history of biology at Tübingen University
2001 Habilitation for the history of science at Tübingen University
2002- Guest professor and lecturer for the history of biology at Tübingen and Göttingen University
2006 Prof. Tübingen University

Darwin als Theoretiker des Kulturellen

Philipp Sarasin
Forschungsstelle für Sozial- und Wirtschaftsgeschichte
Universität Zürich

Es entspricht der communis opinio und dem gegenwärtigen Stand der wissenschaftlichen Diskussion, den Namen Darwins als Referenz für die These anzurufen, dass nicht nur Tiere, sondern auch der Mensch sich in ihrem Verhalten letztlich immer und ausschliesslich an den Anforderungen und Notwendigkeiten des Überlebens und sich Reproduzierens ausrichten müssen. Darwin selbst hat allerdings an dieser Sichtweise 1871 seine deutlichen Zweifel geäussert und unter dem Titel der «sexual selection» und speziell der «female choice» ein ergänzendes, zweites Erklärungsprinzip für natürliche Formen und Verhaltensweise entwickelt.

Der Vortrag wird versuchen, diesen Vorschlag Darwins zeichentheoretisch zu reformulieren und zu zeigen, dass Darwin mit der Theorie der «sexual selection» eine Art von Genealogie des Kulturellen in der Natur entworfen hat, die keineswegs überholt ist.

CV Philipp Sarasin

Philipp Sarasin ist Ordinarius für Neuere Allgemeine und Schweizer Geschichte am Historischen Seminar der Universität Zürich, Forschungsstelle für Sozial- und Wirtschaftsgeschichte.

Geboren am 1. Oktober 1956 in Basel; Studium der Geschichte, Nationalökonomie und Philosophie in Basel und Heidelberg. 1990 Promotion an der Universität Basel; 1990-1992 Post-doc an der Ecoles des Hautes Etudes en Sciences Sociales (Paris); 1993–2000: Assistent und Lehrbeauftragter am Historischen Seminar der Universität Basel; seit 2000 Professor an der Universität Zürich.

Gründungsmitglied des Zentrums «Geschichte des Wissens» (Universität und ETH Zürich), Mitherausgeber von «Nach Feierabend», Zürcher Jahrbuch für Wissensgeschichte (2005ff.).

Wichtigste Buch-Publikationen:

- Darwin und Foucault. Genealogie und Geschichte im Zeitalter der Biologie, Frankfurt/M.: Suhrkamp 2009
- (Hg., mit Berger et al.): Bakteriologie und Moderne. Studien zur Biopolitik des Unsichtbaren 1870-1920, Frankfurt/M.: Suhrkamp 2007
- Anthrax. Bioterror as Fact and Fantasy, Cambridge: Harvard University Press 2006
- Michel Foucault zur Einführung, Hamburg: Junius 2005 (3. Aufl. 2008)
- „Anthrax". Bioterror als Phantasma, Frankfurt: Suhrkamp 2004
- Geschichtswissenschaft und Diskursanalyse, Frankfurt: Suhrkamp 2003
- Reizbare Maschinen. Eine Geschichte des Körpers 175-1914, Frankfurt/M.: Suhrkamp 2001
- (Hg., zusammen mit Regina Wecker): Raubgold, Reduit, Flüchtlinge. Zur Geschichte der Schweiz im Zweiten Weltkrieg, Zürich: Chronos 1998
- (Hg., zusammen mit Jakob Tanner): Physiologie und industrielle Gesellschaft. Studien zur Verwissenschaftlichung des Körpers im 19. und 20. Jahrhundert, Frankfurt/M.: Suhrkamp 1998
- Stadt der Bürger. Bürgerliche Macht und städtische Gesellschaft, Basel 1846–1914, Göttingen: Vandenhoeck & Ruprecht 1997 (2., überarbeitete u. erw. Aufl.)

Biological and Sociocultural Evolution: Separation, Parallels, Interdependencies

Rudolf Stichweh
Soziologisches Seminar
Universität Luzern

The lecture looks at evolutionary theory as a transdisciplinary research programme in the natural and in the social sciences. On the one hand this can be conceived as only one interrelated research programme; on the other hand there arises the separation of biological and sociocultural evolution, which is first of all an event and an evolutionary novelty in the history of the world. The distinction of biological and sociocultural evolution as distinguishing two types of theory building then is only an intellectual reconstruction of this evolutionary shift. The lecture will first of all look at the different mechanisms and concepts, which allow to understand the separation of biological and sociocultural evolution. It will secondly ask for ongoing interdependencies of these two evolutionary processes. Are there respects in which it can be said that biological evolution functions as a restriction on the available space for sociocultural variations? Are there even certain “results” (goals, functions, tendencies) of sociocultural evolution made probable by the fact of biological evolution? And thirdly, which is the nature of the constraints which are brought about by the fact of an extremely fast evolving global social system and by the effects of these sociocultural evolution on the possibilities of further biological evolution?

CV Rudolf Stichweh

Rudolf Stichweh, b. 1951; studies of sociology and philosophy in Berlin and Bielefeld; Dr. rer. soc. 1983 at University of Bielefeld; 1985-9 Max-Planck-Institut fuer Gesellschaftsforschung, Koeln; 1987 Maison des Sciences de l'Homme, Paris; 1989-94 Max-Planck-Institut fuer europaeische Rechtsgeschichte, Frankfurt a.M.; 1994-2003 professor for sociological theory, University of Bielefeld; 2000 guest professor at École des Hautes Études en Sciences Sociales, Paris; 2001/2 guest professor at University of Vienna; since 2003 professor for sociological theory at University of Lucerne, Switzerland; 2005/6 fellow at the Wissenschaftskolleg zu Berlin; October 2006 - 2010 rector of the University of Lucerne; 2007, spring, and 2009, autumn, guest professor at University of Klagenfurt (at Vienna).

Major areas of research:

Theory of world society; sociology of strangers and migrations; sociology of science and universities; theories of sociocultural evolution; systems theory and sociological theory; historical macrosociology.

Main publications:

Books: Zur Entstehung des modernen Systems wissenschaftlicher Disziplinen. Physik in Deutschland 1740-1890, Suhrkamp 1984; Der frühmoderne Staat und die europäische Universität: Zur Interaktion von Politik und Erziehungssystem im Prozeß ihrer Ausdifferenzierung (16.-18. Jahrhundert), Suhrkamp 1991; Wissenschaft, Universität, Professionen: Soziologische Analysen, Suhrkamp (stw 1146) 1994; Die Weltgesellschaft. Soziologische Analysen, Suhrkamp (stw 1500) 2000; Inklusion und Exklusion: Studien zur Gesellschaftstheorie, Transcript 2005; Der Fremde: Studien zur Soziologie und Sozialgeschichte, 2009.

Selected English articles: Self-organization and autopoiesis in the development of modern science, Sociology of the Sciences, 14, 1990, 195-207; The sociology of scientific disciplines, Science in Context 5, 1992, 3-15; The unity of teaching and research, Pp. 189-202 in Poggi/Bossi (eds.), Romanticism in Science, Kluwer 1994; Science in the system of world society, Social Science Information 35, 1996, 327-340; The stranger: On the sociology of indifference, Thesis Eleven, No. 51, 1997, 1-16; Professions in modern society, International Review of Sociology, 7, 1997, 95-102; Systems theory and the evolution of science, Pp. 303-317 in Altmann/Koch (eds.), Systems, De Gruyter, 1998; The form of the university, Pp. 121-141 in Dirk Baecker (ed.), Problems of Form, Stanford U.P. 1999; Differentiation of science and politics, Pp. 139-147 in Luca Guzzetti (ed.), Science and Power, European Communities 2000; On the genesis of world society: Innovations and mechanisms, Distinktion – tidsskrift for samfundsteori 1, 2000, 27-38; Systems theory as an alternative to action theory: The Rise of communication as a theoretical option, Acta Sociologica 43, 2000, 5-13; Scientific disciplines, History of, Pp. 13727-13731 in IESBS, Vol. 20, 2001; Niklas Luhmann, Pp. 9097- 9102 in IESBS, Vol. 13, 2001; The genesis of a global public sphere, Development 46, 2003, 26-29; The multiple publics of science: Inclusion and popularization, Soziale Systeme, 9, 2003, 210-220; From the "Peregrinatio Academica" to contemporary international student flows, Pp. 345-360 in Christophe Charle et al. (eds.), Transnational Intellectual Networks, Campus 2004; Strangers in world society: Indifference and minimal sympathy, Pp. 111-123 in: Between Nanoworlds and Global Culture, Jovis 2004; Evolutionary theory and the theory of world society, Soziale Systeme 13, 2007; The Eigenstructures of world society and the regional cultures of the world, Pp. 133-149 in Ino Rossi (ed.), Frontiers of Globalization Research, Springer 2007

Round Table I

With Friday's Speakers

Presentation:

Helmut Weissert

ETH Zürich

CV Helmut Weissert

Scientific Interests:

- Mesozoic climate and the global carbon cycle
- Response of biosphere to greenhouse climate pulses
- Alpine paleoceanography

Education:

1988: Habilitation, ETH Zürich, C-isotope stratigraphy, a monitor of paleoenvironmental change: a case study from the Early Cretaceous

1979: PhD ETH Zürich, «Die Paläozeanographie der südwestlichen Tethys in der Unterkreide» Supervisors : Prof. K. Hsü, Prof. D. Bernoulli

1974: Diplom in Geology, ETH Zürich. Supervisors: Prof. R. Trümpy, Prof. A. Gansser

Professional Experience:

1993-present: Professor, ETH Zürich

1988-1993: Senior lecturer, ETH Zürich

1982-1988: Oberassistent, ETH Zürich

1980-1982: Postdoctoral Reseach Associate, Basel University

1979-1980: Postdoctoral Research Associate, USC University of Southern California

1976-1979: Ph.D. Student at the Geological Institute, ETH Zürich

Other professional activities

- President of the «Platform Geosciences», Swiss Academy of Natural Sciences (2007-)
- Alternate of SASEC Science Advisory Structure Executive Committee of IODP (Integrated Ocean Drilling Program).
- Member of the Editorial Board Journal of Sedimentary Research
- (1996-2001), Geologica Carpathica, Journal of the Geological Society (1998-2004), Geologica Insubrica, Paleoceanography (1996-2002), Sedimentology (1991-1996). Geology (2005-…),
- Reviewer DFG, Austrian Science Foundation, CNRS, SNF US
- Voting member of the IUGS Sub-commission on the Cretaceous
- Vice-chair of ISSC, International Subcommission on Stratigraphic classification (ISC)

Award:

Goldene Eule, ETH, for excellence in teaching, 2005

Public Presentation

Animal Evolution: Myth or Reality?

Friday 17:30 – 18:30

Speaker:

Denis Duboule

Université de Genève et EPFL

CV Denis Duboule

Né en 1955, à Genève, de nationalités suisse et français, Denis Duboule a étudié la biologie à l'Université de Genève. Il obtient un Doctorat ès sciences en 1984 et passe 10 ans à l'étranger, d'abord à la Faculté de Médecine de Strasbourg (France), puis au laboratoire européen de biologie moléculaire, à Heidelberg (Allemagne). En 1993, il est nommé Professeur ordinaire au Département de zoologie et de biologie animale de la Faculté des sciences de l'Université de Genève, département qu'il dirige depuis 1997. Il est également Directeur du Pôle national de recherche en Génétique expérimentale et professeur à l'école polytechnique fédérale. Son domaine d'activité est l'embryologie, la génétique et le développement et l'évolution des mammifères, en particulier des squelettes osseux.

Auteur de plus de 150 publications, membre de nombreux comités, sociétés savantes et Académies, Denis Duboule a reçu plusieurs distinctions scientifiques dont les prix Louis-Jeantet de médecine (1998), Marcel Benoist (2003) et Leopold Meyer de l'Académie des Sciences (2004).

Session 3

Leading edge Presentation

Palaeontology

Saturday 8:30 – 10:30

Session Chair:

Jean-Pierre Berger

Université de Fribourg

CV Jean-Pierre Berger

Studies

1968-1975 : Collège Saint-Michel, Fribourg, Baccalauréat type C (science)
1975-1979 : Geological Institute, University Fribourg, Diplôma in Geology
1979-1984 : Institut de Géologie, Université de Fribourg : PhD: «La transgression de la Molasse marine supérieure (OMM) en Suisse occidentale»
Mai 1992 : Habiliation thesis «Paléontologie de la Molasse de Suisse occidentale»

Distinction

Prix Schlaefli 1984 (Swiss Academy of Science) for the PHD-Thesis

Fonctions

Since Juillet 1997 Associated Professor, Geological Institute, University Fribourg.Paleontology – Stratigraphy
Responsible for Paleontology for the Universities Bern, Neuchâtel and Fribourg

Position

Fribourg:
Responsible of the «Cafés scientifiques» of the Faculty of Sciences
Studies Advisor for the Geoscience Deparment

National:
President of the Swiss sugbroup for «Geotopes of National Importance»
Past president and actual Member of the Swiss Paleontological Society Council
Past President and actual vice-president of the Commission for the «Mémoires Suisses de Paléontologie»
Scientific Responsable of the «Section de Paléontologie du Jura (Palaeojura »
Member of the IUGS-ch Council / Swiss geological Commission/ Swiss Commission Stratigraphy
Project leader for «Earth and Life» of the Base Camp Project (International Year Planet Earth)
Member of the Council «Darwin Year»

International:
Past President of the Group of European Charophytologists (GEC)
President ad interim of the European Paleontological Society (EPA)
Coordinator of the «Group Molasse»
Past subproject leader of the URGENT-Project and Project leader of the «TOPO-WECEP» programm

The Problem of Missing Links and the Origin of Turtles

Olivier C. Rieppel
Department of Geology
The Field Museum, Chicago

Charles Darwin acknowledged «that the geological record, viewed as a whole, is extremely imperfect». Many critics raised the issue of 'missing links' in arguments against Darwin's theory as an explanation for the origin of major new branches of the Tree of Life. The traditional approach to the origin of higher taxa is a transformational one: all that appears new in the evolutionary makeup of organisms is but a transformation of what already existed in the ancestral adult phenotype. The emergentist approach is an alternative that allows for genuine innovation in evolutionary history. The origin and evolution of the turtle shell is a particularly good example illustrating these alternative approaches to morphological evolution. The most recent discussion of turtle origins is illuminated by the discovery of an ancestral turtle in marine deposits from the early Late Triassic of Guizhou Province, southwestern China. It is the oldest and most primitive turtle known, with a fully developed ventral shell (plastron), but an as yet incompletely developed dorsal shell (carapace). A 'missing link' at last, which provides important insights on how old developmental tools can be re-deployed to build new morphologies, such as the one of turtles

.

CV Olivier C. Rieppel

Professional preparation

Dr. habil (Privatodozent), University of Zürich, 1984

Ph.D., University of Basle, 1978

M.Sc., Vertebrate Paleontology, University College, London, 1975

Diploma in Zoology, University of Basle, 1974

Appointments

2009 – present: Rowe Family Curator of Evolutionary Biology, The Field Museum

2001 – 2009: Chair, Dept of Geology, The Field Museum

2005 – present: MacArthur Curator of Fossil Reptiles, The Field Museum

1990 – 2004: Curator of Fossil Amphibians and Reptiles, The Field Museum

1991 – present: Lecturer, Committee of Evolutionary Biology, University of Chicago

1991 – present: Adjunct Professor, Northwestern University

1979 – 1990: Oberassistent and Privatdozent, Palaeontological Institute and Museum, University of Zürich.

1976 – 1978: Assistant, Natural History Museum, Basel

Five publications most closely related to the proposed symposium:

- Rieppel, O., and M. deBraga. 1996. Turtles as diapsid reptiles. Nature, 382: 453-455.
- DeBraga, M., and O. Rieppel. 1997. Reptile phylogeny and the interrelationships of turtles. Zoological Journal of the Linnean Society, 120: 281-354.
- Rieppel, O. 1999. Turtle origins. Science, 283: 945-946.
- Rieppel, O. and R.R. Reisz. 1999. The origin and early evolution of turtles. Annual Review of Ecology and Systematics, 30: 1-22.
- Li, C., X.-C. Wu, O. Rieppel, L.-T. Wang, and L.-J. Zhao. 2008. An ancestral turtle from the Late Triassic of southwestern China. Nature, 456: 497-501.

Five other relevant publications:

- Rieppel, O. 2001. Turtles as hopeful monsters. BioEssays, 23: 987-991.
- Rieppel, O. 2005. Modules, kinds, and homology, Journal of experimental Zoology (Molecular and Developmental Evolution), 304B: 18-27.
- Rieppel, O. 2007. The performance of morphological characters in broad-scale phylogenetic analysis. Biological Journal of the Linnean Society, 92: 297-308.
- Rieppel, O., and M. Kearney. 2007. The poverty of taxonomic characters. Biology & Philosophy 22: 95-113.
- Rieppel, O. 2007. Homology: a philosophical and biological perspective, pp. 217-240. In: W. Henke and I. Tattersall (Eds.), Handbook of Paleoanthropology, Volume 1. Springer, Berlin.

Beyond Darwin's «Incompleteness of the Geological Record»: Who survived in the Open Oceans and why?

Hans R. Thierstein
Geologisches Institut
ETH Zürich

The past 50 years have seen an unprecedented acceleration of our knowledge and understanding of the variability of past global changes on various timescales. This was driven by the discovery of plate tectonics in the 1960's, the exploration of today's ocean waters, the systematic sampling by deep sea drilling of the rocks deposited on the ocean floors, and the development and application of new analytical techniques to analyse these rock deposits. Consequently the dogmas of Hutton's «gradualism» and of Darwin's «imperfection of the geological record» have been seriously challenged. Major milestones in our rapidly improving understanding of the marine biosphere have been: (1) quantitative analyses of the abundance of shelled remains of single-celled plants and animals in deep-sea deposits; (2) vastly improved dating techniques; (3) new analytical methods to trace past global environmental changes (temperature, salinity, fertility, circulation, insolation etc.). These developments have allowed an unprecedented degree of resolution in our reconstructions of the history of a major part of planetary life and its interdependence with environmental change. The currently remaining «Darwinian» puzzles relate to the frequency of mass-extinctions and their causes, the subsequent recovery times, and the controls for the vastly variable longevities of various taxa as documented in deep-sea records.

CV Hans R. Thierstein

http://www.erdw.ethz.ch/thierstein

Education and Career

Diploma in Geology, University of Zurich

1972: Dr. phil. II in Geology, University of Zurich

1970-73: Assistant, Geological Institute, ETH Zurich

1973-76: Postdoc (of SNF) at L-DEO (Palisades, N.Y.) and WHOI (Woods Hole, MA)

1976-1985: Assistant, Associate and Full Professor of Geology at SIO-UCSD, La Jolla, CA)

1985-2009: Professor of Micropaleontology, ETH Zurich and University of Zurich

Research Foci and Expertise

Micropaleontology, biostratigraphy, paleoceanography, ecology and evolution of plankton, automated microscopy and classification, biodiversity and molecular genetics of coccolithophores.

Professional Activities and Public Service

Participation in several Oceanographic Research Cruises (1972-1997)

Co-Editor of Marine Micropaleontology, Elsevier (1989-95)

Member of IODP Management Committee (since 2003) and Board of Governors (since 2008)

Chair (1994-2002) of Steering Committee of Swiss Priority Program Environment (SPPU) of Swiss National Science Foundation

Member of ProClim-Kuratorium of SCNAT (since 1995)

Member Swiss Advisory Committee on Climate Change - OcCC (1997-2001)

Prorector ETH for International Relations (2003-2008)

Ombudsperson ETH (since 2009)

Honors

Recipient Brandenberger Stiftung Annual Award 1998

Member Deutsche Akademie der Naturforscher Leopoldina

Selected Recent Publications

- 2007, Meckler, A.N., Haug, G. H., Sigman, D.M., Plessen, B., Petersen, L.C., Thierstein, H.R.: Detailed sedimentary N isotope records from Cariaco Basin for Terminations I and V: Local and global implications. Global Biogeochemical Cycles 21, GB4019: 1-13.
- 2005, Jaccard, S. L., Haug, G. H., Sigman, D. M., Pedersen, T. F., Thierstein, H. R., and Rohl, U. Glacial/interglacial changes in subarctic North Pacific stratification. Science 308: 1003-1006.
- 2004, Schmidt, D., Thierstein, H. R., Bollmann, J. and Schiebel, R. Abiotic forcing of plankton evolution in the Cenozoic. Science 303: 207-210.

Session 4

Leading edge Presentation Biology

Saturday 10:45 – 12:45

Session Chair:

Jean-David Rochaix

Université de Genève

CV Jean-David Rochaix

Education

Physics (1963-1968) University of Lausanne

PhD in Biophysics (1968-1972) Harvard University

Research and Professional Experience

Post-doctoral fellow (Fogarty NIH fellowship) (1972-1974) Yale University

Appointments

Chargé de recherches, Department of Molecular Biology, University of Geneva (1974-1981)

Professor, Departments of Molecular Biology and Plant Biology, University of Geneva (1981-today)

Chairman, Department of Molecular Biology, University of Geneva (1991-1994;1998-2001)

Awards

Prize of University of Lausanne (1968)

Friedrich-Miescher Prize (1980)

Gilbert Morgan Smith Medal (1991)

Membership

Elected member of EMBO (1981)

Elected Member of Academia Europaea (2002)

Activities

Member of the Board of Directors of the International Society for Plant Molecular Biology (1983-1986)

Member of EMBO Fellowship Committee (1988-1992)

Member of EMBO Council (1994 – 1999)

Member of fellowship committee of HFSPO (1995 – 1997).

Chairman of EMBO YIP (Young Investigator Programme) committee (2000-2004)

Member of Council of Scientists of HFSPO (2006-today)

President, Platform of Biology, Swiss Academy of Sciences (2007-today)

Evolution of Morphological Novelties and Plant Biodiversity

Heinz Saedler
Max-Planck-Institut für Züchtungsforschung

After the Cambrian explosion, some 540 million years ago, biodiversity of higher organisms did evolve in a non uniformly steady process and was accompanied by at least five major mass extinctions. Nonetheless, current biodiversity seems to be as high as never before.

Five questions will be addressed: What is biodiversity, how to measure it, how did it evolve, what threatens it and what are the values of biodiversity. Species diversity is one level and molecular measurements of population structures reveal another level of biodiversity. However, in biodiversity assessments also other parameters, like the morphology and local adaptations of plants as well as habitat characteristics including ecological and geological data have to be incorporated into a searchable database. Thus, biodiversity is more than counting species and cannot be characterized by a single number. The dynamic nature of the evolution of biodiversity, gain and loss of traits or species is highlighted by two examples concerning population structure as in Melampyrum sylvaticum and the evolution of a morphological novelty in the Solanaceae, the Chinese lantern of Physalis floridana. Unfortunately, biodiversity is threatened by the sum of all human activities, especially agriculture.

Habitat loss presents the single greatest threat to world biodiversity. The spread of non-native species threatens many local species with extinction. Climate change threatens to force species and ecosystems to migrate, with no guarantee of suitable habitat or access routes. Thus, conservation of biodiversity is a mandatory activity, especially in the light of its values for human society. Green plants are the base of all natural resources, they are essential for ecosystem functioning to provide food and feed for most living organisms. In its present condition the world's ecosystems maintain the existence of 6,7 billion humans and biodiversity stabilizes the system.

CV Heinz Saedler

Heinz Saedler studied Chemistry, Biochemistry and Genetics from 1960 to 1967 at the Universities of Bonn, Munich and Cologne. His PhD in 1967 with Prof. Dr. Peter Starlinger at the Department of Genetics in Cologne concerned «Oo Mutations in the Galaktose Operon of E. coli», which ultimately lead him to the discovery of the insertion elements IS1 and IS2. After a short postdoc period at Stanford University in 1969/1970 he returned to Cologne and studied F and R-factors and the role of IS-elements in Hfr formation and R-determinant amplification as well as their role in Resistance-factor transposition. Some of this work was done in collaboration with the lab of Norman Davidson while spending a short fellowship at Caltech. In 1974 he obtained his Dr. habil. from the Science Faculty of the University at Cologne. In 1975 he was appointed Prof. at the University of Freiburg, Germany. Here, so called mini-insertions, generated new signal structures on IS2 influencing adjacent gene expression. In collaboration with Guy Cornelis, who spent a postdoc period in the Freiburg lab, a new transposon from Yersinia enterocolitica carrying a Lactose Operon was described molecularly. In 1980 Heinz Saedler was offered a Director position at the Max-Planck-Institut of Plant Breeding Research in Cologne. This meant changes in objects and topics. Objects included Anthirrhinum majus, Zea mays, Petunia hybrida, Arabidopsis thaliana, Physalis floridana and other numerous Solanaceae to name but a few. Topics concerned the molecular mechanism of transposition especially of the En/Spm element of Z. mays finally suggesting a model of transposition based on mutations generated via excision of the transposon. In pursue of these studies various genes from Z. mays, like A1, A2, C1 and C2 affecting the anthocyanin pathway were isolated and characterized. Studies on Paramutation in A. majus revealed interaction of the two transposons Tam1 and Tam2. In 1990 the first field trial in Germany was carried out with a transgenic Petunia featuring a new color variant due to the transfer of the A1 gene from Z. mays. This should allow to capture transposons into this target gene resulting in variegated flowers. However, the numbers of variegated flowers were high (close to 60%). As subsequent analysis showed, these were due to methylation thus opening up a new field of research. In that same time period MADS-box transcription factors were described in his laboratory from A. majus. Subsequent years revealed their function in developmental processes, especially in specifying flower organ identity. Their role in the evolution became apparent in studies with mosses, ferns, Gnetales and various higher taxa. Functional tests were exploited via complementations in higher plants, like Arabidopsis thaliana as well as mosses, like Physcomitrella patens.

In the last years the evolution of morphological novelties like the “Inflated Calyx Syndrome” (ICS) of Physalis has attracted his attention in context with the evolution of Plant Biodiversity.

Darwinian Genomics

Andrew G. Clark
Dept. of Molecular Biology and Genetics
Cornell University

The idea of seeking evidence for Darwinian evolution through analysis of whole genome sequence data has matured to an active and vibrant field. This approach is especially effective when the genome sequences are obtained for species whose phylogenetic tree is well known. I will illustrate how alignment of multiple genomes has provided a rapid and robust way to identify attributes of genomes that are rapidly evolving due to positive Darwinian selection, drawing from examples in Drosophila, bees, mammals, and primates including humans. Addition of multiple sequences from within species allows inference of within species processes of mutation, drift, demography, and natural selection at a genome-wide scale. Inferences about recent human evolution will be presented.

CV Andrew G. Clark

Education:

1976 B. S. Biology and Applied Mathematics, Brown University

1980 Ph.D. Population Genetics, Dept. Biological Sciences, Stanford.

Professional Experience:

1980 - 1981 Postdoctoral Associate, Arizona State Univ, (with Winifred Doane).

1982 - 1983 Visiting researcher, Institute of Ecology and Genetics, University of Aarhus, Aarhus, Denmark (with Dr. Freddy Christiansen).

1983 - 2002 Asst, Assoc, Professor, Biology, Penn State University.

2002- Professor, Molecular Biology & Genetics, Cornell University

Honours:

NIH Research Career Development Award, 1987-1992, Associate editor, Genetics, 1989-2004, NIH Genetics Study Section, ad hoc member, 1988-1991, 1993-1996-2009 NHI Human Genome Study Section, ad hoc member, 1997, 1998, Sloan Foundation Sabbatical Award, Jan. - Aug. 1992, Fellow of Amer. Assoc. for the Advance. of Science; Society for Molec. Biol and Evolution, President, 1999-2002; Fachbeirat, Max Planck Institute for Evolutionary Anthropology; Annual Review of Genetics editorial board

Selected relevant publications (out of a total of 256):

- Clark AG, Eisen MB, Smith DR, Bergman CM, Oliver B, Markow TA, Kaufman TC, Kellis M,
- Gelbart W, Iyer VN, Pollard DA, Sackton TB, Larracuente AM, Singh ND,2007. Evolution
- of genes and genomes on the Drosophila phylogeny. Nature 450:203-218.
- Larracuente, A.M., T. B. Sackton, A. Greenberg, N. D. Singh, D. Sturgill, B. Oliver, and A. G. Clark.
- 2008. Evolution of protein-coding genes in Drosophila. Trends Genet 24:114-123.
- Wittkopp. P.J., B.K. Haerum, A.G. Clark. 2008. Independent effects of cis- and trans-regulatory
- variation on gene expression in Drosophila melanogaster. Genetics 178:1831-1835.
- Wang, X., Q. Sun, S. D. McGrath, E. R. Mardis, P, D. Soloway & A. G. Clark. 2008.
- Transcriptome-wide identification of novel imprinted genes in neonatal mouse brain.
- PLoS ONE 3(12):e3839. Epub 2008 Dec 4.
- Nielsen, R., M.J. Hubisz, I. Hellmann, D. Torgerson, A.M. Andres, A. Albrechtsen, M.D. Adams,
- M. Cargill, A. Boyko, A. Indap, C.D. Bustamante, and A.G. Clark. 2009. Darwinian and
- demographic forces affecting human protein coding genes. Genome Res. 19:838-849.
- Lohmueller, K.E., C.D. Bustamante, and A.G. Clark. 2009. Methods for human demographic

Session 5 & 6

Epistemology

Saturday 14:00 – 17:45

Session Chair:

Gerd Folkers

Collegium Helveticum

CV Gerd Folkers

Prof. Dr. Gerd Folkers has been announced Professor at ETH Zürich for Pharmaceutical Chemistry in 1991, and became full Professor in 1994. He performed his PhD thesis on structure-activity relationships of synthetic nucleosides at the University of Bonn (D). Thereafter he spent time abroad in the USA, UK and Switzerland before he finished his habilitation on drug design in 1990 at the Institute of Pharmacy of the University of Tübingen (D). Prof. Folkers is member of the Swiss national research council and member of the board of different start-up-companies. He founded an ETH-spin-off, which runs a virtual leaning platform for pharmaceutical and biomedical sciences. Gerd Folkers is (Co-)Author and Editor of numerous scientific papers articles and books in drug research and development. He received many international awards; one of the most important to him is the European Prix Media together with Beat Ernst, Basel for the development of new teaching and leaning environment in Pharmaceutical Sciences.

Since 2004 Prof. Folkers ist he director of the Collegium Helveticum a joint institution of University of Zürich and ETH Zürich. The Institute is devoted to interdisciplinary approaches in trying to solve complex problems. For the next period of 5 years the common topic of the fellows of the Collegium Helveticum coming from as different fields a Chemistry, History, Literature, Medicine, Neuroscience, Economy, Pharmacy, Theology and Environmental Sciences the creation, meaning and importance of an emotion.

In 2006, Gerd Folkers has been elected member of the Swiss Academy for Engineering Sciences.

From the Voyage on the Beagle to Sorcerer II: The ongoing Transformation of Science

Helga Nowotny
European Research Council, Vienna

Sampling microbes from the Baltic, Mediterranean and Black Sea is the latest project undertaken by the research sloop Sorcerer II beginning this March. Like its predecessors, it is entirely funded from private sources. The microbes will be frozen for purposes of DNA sequencing and are expected to yield even more genetic diversity than the previously collected open oceans microbes. The transformations of science since Darwin's voyage on the Beagle are obvious. They also reveal profound tensions: the potential conflict between scientific and commercial values, whether scientists' moral character matters, as claimed by Steven Shapin and how the authority of traditional academic science arranges itself with its thriving context, that of commercial science. Darwin's voyage on the Beagle – and its consequences for our knowledge of the natural world – are rightly celebrated this year. What will future generations make of the research ventures of Craig Venter and his likes?

CV Helga Nowotny

http://www.helga-nowotny.eu/

Helga NOWOTNY is Vice-President of the European Research Council

Helga Nowotny is Professor em. of Social Studies of Science at ETH Zurich and Chair of the Scientific Advisory Board of the University of Vienna. She has held teaching, research and advisory positions in various European universities and institutions among them the University of Vienna, University of Bielefeld, EHESS Paris, Social Science Center Berlin and the Collegium Budapest/Institute of Advanced Study.

Among other she has been Chair of EURAB, the European Research Advisory Board of the European Commission and of the Standing Committee for the Social Sciences of the European Science Foundation.

She has received the prestigious Bernal Prize for life-long achievements in social studies of science. She is a member of the Academia Europaea and Foreign Member of the Royal Swedish Academy of Sciences.

Helga Nowotny has published widely in Social Studies of Science and Technology (STS) and in time studies. Her more recent book publications include:

- Die Gläsernen Gene. Gesellschaftliche Optionen im molekularen Zeitalter (with Giuseppe Testa), Frankfurt a.M.: Edition Unseld, Suhrkamp 2009
- Cultures of Technology and the Quest for Innovation (ed.), New York, London: Berghahn Books, 2006
- Unersättliche Neugier: Innovation in einer fragilen Zukunft, Berlin: Kadmos Verlag, 2005 (translated into Italian: Curiosità insaziabile. L'innovazione in un futuro fragile. Torino: Codice edizioni, (translated into Englisch: Insatiable Curiosity. Innovation in a fragile Future. Cambridge: MIT Press, 2008

Darwin's Heredity

Hans-Jörg Rheinberger
Max-Planck-Institut für Wissenschaftsgeschichte

It is hardly understood today that heredity as a biological concept, historically seen, is a relatively new creation. It originated around the turn from the 18th to the 19th century and, only in the context of Darwin's theory of evolution, assumed the form of an epistemic space that began to dominate the life sciences of the second half of the 19th century. Ironically, Darwin's solution to the problem did not stand the test of history. This paper tries to locate Darwin's turning point and tries to understand what followed, with a few remarks on the present situation.

CV Hans-Jörg Rheinberger

Hans-Jörg Rheinberger, Director, Max Planck Institute for the History of Science, Berlin, since 1997; Dr. rer. nat., Free University of Berlin, 1982; Habilitation (molecular biology), Free University of Berlin, 1987; assistant professor, University of Lübeck, 1990-1994; associate professor, University of Salzburg, 1994-1996; Honorary Professor, Technical University, Berlin, since 1998;. Awards: Fellow at the Institute for Advanced Study Berlin, 1993-1994; Member of the Berlin-Brandenburg Academy of Science, 1998; Fellow at the Collegium Helveticum Zurich, 2000; Member of the Academy Leopoldina, 2002; Dr. h.c. ETH Zurich, 2006; Prize for Interdisciplinary Research of the Cogito Foundation Zurich, 2006. Selected Publications: Toward a History of Epistemic Things (1997); The Mapping Cultures of 20th Century Genetics (2 vols., ed. with Jean-Paul Gaudillière, 2004); Iterationen (2005); Epistemologie des Konkreten: Studien zur Geschichte der modernen Biologie (2006); Historische Epistemologie zur Einführung (2007); Heredity Produced (ed. With Staffan Müller-Wille, 2007); Vererbung: Geschichte und Kultur eines biologischen Konzepts (2009)

The second Darwinian Blow to Human Self-Love: Mind and Culture as Dependent Variable of Human Nature

Wolfgang van den Daele
Wissenschaftszentrum Berlin

Sigmund Freud called the theory of natural evolution a blow to human self-love and megalomania. Darwin «destroyed man's supposedly privileged place in creation and proved his descent from the animal kingdom and his ineradicable animal nature.» But this was only the beginning. Today another Darwinian blow seems imminent. The sciences collect evidence that our emotions, dispositions to act, schemes of cognition, moral sentiments, cultural orientation and social organization may not be placed as much beyond and above our biological nature as conventional wisdom would have it. Are the human mind and culture a dependent variable of human nature? Do they, for that matter, belong to the realm of natural evolution? Darwin's own position in this respect was cautious and rather inconclusive. Modern ethologists, behavioural geneticists and brain researchers are less cautious.

We do not know how far natural determinism can reach. In the end, we may have to consider the contents and semantics of mental acts and cultural phemona as categorically distinct from nature, anyhow. That does not mean, however, that we can effectively immunize them from their physiological and genetic correlates. In contrast to the early exercises in sociobiology such correlations are no longer merely hypothetical; they are borne out by causal experimentation and association with genes. It is, therefore, hardly adequate to dismiss them as pseudoscience and wage political battles against their proponents. We have to take scientific findings in account and defend the independence of cultural claims and social values in view of them.

This constellation may impose some extra political responsibility on scientists of biology. This is illustrated by the case of James Watson, who was ostracized by the public and the scientific community when he advocated some years ago to launch a research program to investigate whether black Americans as a group lack behind the cognitive capacities and performances of white Americans because of genetic reasons.

CV Wolfgang van den Daele

Studied law and philosophy.

Profesor of Scociology at the Free University of Berlin (unitl 2004) and Director of the Department on «Civil Society and Transnational Networks» at the Social Science Research Center (WZB) Berlin (until 2005)

Member of the German National Ethics Council (Nationaler Ethikrat) 2001-2007

Selected Publications:

- 2006: «The Spectre of Coercion: Is Public Health Genetics the Route to Policies of Enforced Disease Prevention?», in: Community Genetics 9 (2006) 40-49.
- 2008: «Streitkultur. Über den Umgang mit unlösbaren moralischen Konflikten im Nationalen Ethikrat», in: Dieter Gosewinkel und Gunnar Folke Schuppert (Hg.), Politische Kultur im Wandel von Staatlichkeit. WZB-Jahrbuch 2007. Berlin: edition sigma, 2008, 357-384.
- 2008: «Das Euthanasieverbot in liberalen Gesellschaften – aus soziologischer Perspektive», in: Caroline von Robertson-von Trotha (Hg.), Tod und Sterben in der Gegenwartsgesellschaft. Eine interdisziplinäre Auseinandersetzung. Baden-Baden: Nomos, 2008, 37 – 62.
- 2008: «Soziologische Aufklärung und moralische Geltung: Empirische Argumente im bioethischen Diskurs», in Michael Zichy und Herwig Grimm (Hg.) (2008), Praxis in der Ethik. Zur Methodenreflexion in der angewandten Moralphilosophie. Berlin: deGruyter, S. 119 - 151.
- 2009: «Biopolitik, Biomacht und soziologische Analyse», in Leviathan 37 (2009) S. 37-52.

Can modern Darwinism explain Human Nature?

Carel P. van Schaik,
Anthropologisches Institut und Museum
Universität Zürich

Biology and biologically inspired studies of human nature have developed independently from the old traditions of the human sciences (social sciences and humanities). The earliest attempts in the late 19th century quickly led to lasting hostility. The reasons for this hostility were, in retrospect, understandable: biology had not yet advanced enough, and those applying biology committed the naturalistic fallacy. Yet, the continued isolation of the Human Sciences from modern biology stands in the way of fruitful interactions. For an evolutionary biologist, it is impossible to see how biology could not be relevant to understanding of human nature. The main unanswered question is whether the evolutionary-biology approach really has any explanatory power beyond providing a historical backdrop. I will explore this open question by examining the evolution of culture and that of cooperation and morality.

CV Carel P. van Schaik

Education:

1965- 1972: Gymnasium beta (cf. High school), Bataafse Kamp, Hengelo (NL)
1972- 1976: Biology, Kandidaatsexamen (cf. BSc), Utrecht University, NL
1976- 1979: Biology, Doctoraalexamen (cf. MSc), Utrecht University (cum laude), NL
1979- 1985: Doctoraat (cf. PhD), Utrecht University (cum laude). Dissertation: The socio-ecology of Sumatran long-tailed macaques (Macaca fascicularis): I. Costs and benefits of group living. Promotor: Prof. Dr. J.A.R.A.M. van Hooff.

Major positions held:

1985 - 1986: Postdoctoral fellow at the department of biology, Princeton University (USA), with Prof. J. Terborgh (grant from ZWO, Netherlands Foundation for the Advancement of Pure Science).
1987 – 1989: Beyaard research fellow with KNAW (Royal Netherlands Academy of Sciences), stationed at Laboratory of Comparative Physiology, Utrecht, NL
1989 – 2004: Visiting associate professor, then associate, then full professor, Department of Biological Anthropology and Anatomy, Duke University, USA.
1993-2002: Adjunct associate professor, School of the Environment, Duke University, USA
1993-2004: Adjunct associate professor, Department of Zoology, Duke University, USA
1994-2004: Co-director, Center for Tropical Conservation, Duke University, USA
August 2004- : Adjunct Professor, Department of Evolutionary Anthropology, Duke University

Awards

Recipient, W.W. Howells Book Award, American Anthropological Association, for Among Orangutans (Harvard University Press, 2004) (2008)
Corresponding member, Royal Netherlands Academy of Sciences (2007)
Recipient, Osman Hill Memorial Medal (2004), Primate Society of Great Britain.
Preisträger, Alexander von Humboldt Foundation (Guest professorship), Göttingen, Germany (1995-1996)

Publications:

- Over 120 scientific papers
- Over 70 book chapters in edited volumes
- Co-editor of 9 edited volumes
- Book: van Schaik, C.P. (2004) Among Orangutans: Red Apes and the Rise of Human Culture. Belknap/ Harvard University Press

Round Table II

With Saturday's Speakers

Presentation:

Peter Lippuner

Naturforschende Gesellschaft Winterthur

CV Peter Lippuner

Studies

1964 – 1971: Studies of English Language and Literature, German Linguistics and British American History at the University of Zurich
1971 January: Diploma (Liz. Phil.I.)

Professional TV Experience

1971: Freelance Journalist with Swiss National TV (Sports Department)
1972 – 1973: Journalist School with Swiss TV, in between working in the Sports Department as journalist, film maker, producer
1974 – 1975: Producer of background sports programs
1976 – 1986: Science Producer in the program ‚Menschen Technik Wissenschaft' (Men, Technique, Science). Producer and Anchorman of Science Program. Many programs in special fields like: Space, Astrophysics, Energy and Environment
1987 – 1993: Head of Science Editorial Group within Swiss National TV. Special programs on Space (Claude Nicollier, Comet Halley).
1994 – 2005: Change to the Editorial Group SF Spezial (Special Events group). Producer of various 24 hour live programs (Ascent of Mount Eiger, A Day in the Insel Hospital etc). Producer of summer travel series: Transamerika; From Cape to Victoria Falls; Hong Kong – One Year before the Handover; etc.
2003/07: Producer of the Election Programs of the Swiss National Elections (12 hours long program).
2005 – 2007: Senior Producer in the Department of Current Affairs. Special programs from the World Economic Forum (WEF), Travel Documentary about Hawaii, Producer of medical Program (PULS), Producer of Quer (program with a social focus)
2007: 31.12.07 Retirement at the age of 63
2008: Founding of own media firm 'Swiss Medialink'. Giving lectures in Media Training for Swiss National Television and other organizations

Special Activities

1987 - : Member of the Naturwissenschaftliche Gesellschaft Winterthur NGW (Society for Natural Science Winterthur) and President of the society.
1990: Member of FRIEND (Environmental NGO) and member of its steering committee
1991: Founder and 1st President of the Solar Power Station Rysolar (on the roof of the local grammar school building).
2007 July: Elected president of the Naturwissenschaftliche Gesellschaft Winterthur NGW
2008: Organizing Science Café in Winterthur
2009: Project Management of 125 anniversary of NGW, a two day exhibition in Winterthur on Oct. 23rd/24th

Organizing Committee

Hans-Konrad Schmutz, Naturmuseum Winterthur
Jean-Pierre Berger, Université de Fribourg
Toni Bürgin, Naturmuseum St. Gallen
Gianni D'Amato, Université de Neuchâtel
Gerd Folkers, Collegium Helveticum
Johannes Gauglhofer, St. Gallen
Jean-David Rochaix, Université de Genève
Helmut Weissert, ETH Zürich
Markus Zürcher, swiss-academies (SAGW)
Pierre Dèzes, swiss-academies (SCNAT)
Stefan Nussbaum, swiss-academies (SCNAT)
Elisabeth Karrer, swiss-academies (SCNAT)